

REMARKS

Response to §§ 102-103 Rejections of Claims 1-16

In the February 10, 2006 Office Action, the Examiner rejected claims 1-16 on various reference grounds. Specifically, the Examiner rejected:

- Claims 1-2, 8, and 15 under 35 U.S.C. §102(e) as allegedly anticipated by U.S. Patent Application Publication No. 2002/0172898 to Forester (hereinafter “Forester”);
- Claims 3-6 and 9-14 under 35 U.S.C. §103(a) as allegedly obvious over Forester;
- Claim 7 under 35 U.S.C. §103(a) as allegedly obvious over the combination of Forester and U.S. Patent Application Publication No. 2005/0124153 to Cohen (hereinafter “Cohen”); and
- Claim 16 under 35 U.S.C. §103(a) as allegedly obvious over the combination of Forester and U.S. Patent No. 6,893,955 to Lopatin et al. (hereinafter “Lopatin”).

In response, Applicants have hereby amended claim 1, from which claims 2-16 depend, to positively recite “a buried etch stop layer comprised of a polymeric material having a composition $\text{Si}_v\text{N}_w\text{C}_x\text{O}_y\text{H}_z$, where $0.05 \leq v \leq 0.8$, $w=0$, $0.05 \leq x \leq 0.8$, $0 \leq y \leq 0.3$, $0.05 \leq z \leq 0.8$ for $v+w+x+y+z=1$.” Further, Applicants have amended claim 2 to recite “wherein said polymeric material is selected from a group consisting of: polysilanes, polycarbosilanes, polysilylenemethylenes, polysilacarbosilanes, and polysiloxazanes” and claim 3 to recite “wherein said buried etch stop layer comprises polyallylhydridocarbosilane or polycarbomethylsilane.” Support for such claim amendments can be found in claims 1-3 as originally filed, as well as in the instant specification on page 4, paragraph [0019] and page 7, paragraph [0031].

Nothing in the cited references teaches or suggests a buried etch stop layer comprised of a polymeric material having a composition $\text{Si}_v\text{N}_w\text{C}_x\text{O}_y\text{H}_z$ with $0.05 \leq v \leq 0.8$, $w=0$, $0.05 \leq x \leq 0.8$, $0 \leq y \leq 0.3$, $0.05 \leq z \leq 0.8$ for $v+w+x+y+z=1$, as positively recited by amended claim 1, much less the specific polymeric materials as recited by amended claims 2 and 3.

Specifically, the primary reference, Forester, discloses only an etch stop layer 320 that comprises a polysilazane containing Si-N bonds (see Forester, Figure 3 and paragraph [0009]). It is clear that polysilazane has a nitrogen content not equal to zero, i.e., $w \neq 0$. Therefore, the polysilazane disclosed by Forester does not have the composition as recited by amended claim 1 of the present application.

Further, nothing in Forester teaches or suggests the use of other polymeric materials for forming the etch stop layer 320, much less the use of a polymeric material with the composition as recited by amended claim 1 or the use of the specific polymeric materials as recited by amended claims 2-3 of the present application.

Therefore, Forester fails to provide any derivative basis for a buried etch stop layer comprised of a polymeric material having a composition $\text{Si}_v\text{N}_w\text{C}_x\text{O}_y\text{H}_z$ with $0.05 \leq v \leq 0.8$, $w=0$, $0.05 \leq x \leq 0.8$, $0 \leq y \leq 0.3$, $0.05 \leq z \leq 0.8$ for $v+w+x+y+z=1$, as positively recited by amended claim 1 of the present invention, or for a buried etch stop layer comprising any of the specific polymeric materials recited by amended claims 2 and 3 of the present application.

The applied disclosures of the secondary references, Cohen and Lopatin, relate only to an adhesion layer and a metal barrier layer but not to a buried etch stop layer. Therefore, Cohen and Forester cannot remedy the above-described deficiency of Forester.

Therefore, claims 1-16 of the present application as amended herein patentably distinguish over the cited references.

Based on the foregoing, Applicants correspondingly request the Examiner to withdraw the rejections of claims 1-16 and to issue a Notice of Allowance for the present application.

If any issues remain outstanding, incident to the formal allowance of the application, the Examiner is requested to contact the undersigned attorney at (516) 742-4343 to discuss same, in order that this application may be allowed and passed to issue at an early date.

Respectfully submitted,



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